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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,628	04/03/2001	Ran Oz	5079P006	3840

7590 11/01/2004

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EXAMINER	
JUNTIMA, NITTAYA	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/825,628	OZ ET AL.	
	Examiner	Art Unit	
	Nittaya Juntima	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-73* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *38-59* is/are allowed.

6)☒ Claim(s) *1,4-7,9-11,16-17,19-28,30-34,36-37,60-66,68-70* is/are rejected.

7)☒ Claim(s) *2,3,8,12-15,18,29,35,67 and 71-73* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 April 0201* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) ~~Paper No(s)~~/Mail Date *4/3/2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: It does not identify the city/state, foreign country, and zip code of the post office of the forth inventor. The complete post office information may be provided on either on an application data sheet or supplemental oath or declaration.

Drawings

2. The drawings are objected to because:

- Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

- "A", "C", "P" and "ST" in Figures 1 and 2, and "TP", "HDR", "ADPT", "PYLD", "MB", "MD", "DS", "BRT", "BRA", and "QD" in Fig. 3 need descriptive text labels. For example "A" is an analyzer.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing

should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 1, 5-6, 8-9, 16-18, 21, 25, 27, 37, 38, 40, 43-44, 46, 49, 51, 54-55, 60, 63, 65, 68, and 72 are objected to because of the following informalities:

- in claim 1, ll 5 and 8, "scheme" should be changed to "schemes;"
- in claim 5, ll 1, "information" should be added after "conversion;"
- in claim 6, ll 1, "from the" should be changed to "from a;"
- in claim 8, ll 6, "the" should be changed to "a;"
- in claim 9, ll 1, "are" should be inserted after "signals;"
- in claim 16, ll 1, "schemes are" should be changed to "scheme is" to avoid lack of antecedent basis;

  ll 2, "the" should be changed to "a;"
- in claim 17, ll 3, "streams" should be changed to "stream;"

- in claim 18, ll 7, "the" should be changed to "a;"

- in claim 21, ll 4, "the media sequence" should be changed to "the sequence of media signals" for consistency purposes;

- in claim 25, ll 1, "reception" should be changed to "receiving" for consistency purposes;

ll 2, "data media" should be changed to "media signals;"

- in claim 27, ll 3, "the" should be changed to "a;"

- in claim 37, ll 6, "the" should be changed to "a;"

- in claim 38, ll 8, "converts" should be changed to "converter;"

- in claim 43, ll 2, "the" should be changed to "a;"

- in claim 49, ll 6, "media signal" should be changed to "stream of media signals;"

ll 8, "converters" should be changed to "convert;"

ll 8-9, "media streams" should be changed to "stream of media signals;"

- in claim 54, ll 2, "the" should be changed to "a;"

- in claim 55, ll 3, "a" should be deleted;

- in claim 60, ll 4, "the" should be changed to "a;"

- in claim 65, ll 3, "the" should be changed to "a;"

- in claim 68, ll 1, "the sequence of" should be deleted;

- in claims 40, 44, 46, 51, 55, 63, and 72, "is configured to," "are configured to," and "configured to" should be changed, i.e. "the multiplexer is configured to receive and multiplex" at ll 2-3 of claim 40 should be changed to "the multiplexer receives and multiplexes" to make the limitation positive. An alternative to the suggested change would be a written confirmation

stating that the claimed element, i.e. the multiplex performs the actual function following "is configured to." It has been held that the recitation that an element "is configured to," "are configured to," and being "configured to" perform a function is *not* a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-5, 23-26, 30, and 36-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, ll 1-4, the limitation "the at least one bit rate conversion scheme" lacks antecedent basis. Should the limitation "the at least one bit rate conversion scheme" be changed to "the at least two bit rate conversion schemes as recited in claim 1, such limitation in claim 5, ll 2 would need to be changed as well.

In claim 36, ll 1, the limitation "the steps of applying and analyzing" lacks antecedent basis.

In claim 37, ll 2, the limitation "the at least one media stream" lacks antecedent basis.

In claims 23 and 30, the limitation "each sequence of compressed media signals" in ll 1 of claim 23 and the limitation "each sequence of compressed digital signals" in ll 1 of claim 30 are vague and indefinite. It cannot be determined from the claim language as how each sequence

of compressed media/digital signals is related to the sequence of media signals in independent claim 21. Therefore, the claim is vague and indefinite.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 1, 9-11, 19-25, 28, 30, 33-34, 60-64, 66, and 69-70 are rejected under 35 U.S.C. 102(a) as being anticipated by an admitted prior art (Fig. 1).

Per claims 1 and 11, as shown in Fig. 1, the admitted prior teaches a method for generating and transmitting bit rate conversion information, the method comprising:

(An analyzer 20-3-2) receiving a sequence of media signals/one media stream (a plurality of media signals in a selected digitized program contained in a primary combined signal), the sequence of media signals/one media stream is to be transmitted over a communication channel (a downstream channel connected to cable network 30). See paragraphs 10, 11, and 13 of the specification. See also paragraph 4, ll 1-4 and paragraph 8, ll 1-5.

(An analyzer 20-3-2) applying at least two bit rate conversion schemes/one bit rate conversion scheme (bit rate conversion techniques) on the sequence of media signals/one media stream (at least two bit rate conversion schemes must be applied, e.g. mathematically, on the plurality of media signals since the information on the amount of actual bit rate conversion that

can be achieved by applying bit rate conversion techniques is generated, paragraph 13 of the specification).

(An analyzer 20-3-2) analyzing the results of the appliance of the at least two bit rate conversion schemes/one bit rate conversion scheme to provide bit rate conversion information (the results of the analysis) (the results of the analysis are provided to controller 20-k-4, i.e. controller 20-3-4, as information regarding the amount of actual/predicted bit rate conversion, paragraph 13 of the specification).

Per claims 9, 19, 33-34, and 69-70, the admitted prior teaches that the media signals/media stream signals are selected from a group of MPEG compliant signals/transport packets (signal/transport packets that are compressed and transported according to MPEG specifications), compressed signals representative of audio and visual information (compressed video and audio signal in MPEG format), and sequences of media signals (sequences of media signals) (paragraph 3 and paragraph 4, ll 1-4).

Per claims 10, 20, 28, and 66, as shown in Fig. 1, the admitted prior teaches that the bit rate conversion information (the results of the analysis) is generated by a central analyzer (an analyzer 20-3-2 is a central analyzer from the perspective of set top boxes 28-1 – 28-t) (paragraph 13, ll 1-12, see also paragraph 10).

Per claim 21, as shown in Fig. 1, the admitted prior teaches a method comprising the steps of:

(A headend 20-3) receiving the sequence of media signals (a plurality of media signals in a selected digitized program contained in a primary combined signal), bandwidth information (the available bandwidth of the downstream channel) and bit rate conversion information (the

results of the analysis). See paragraph 13, ll 1-9 of the specification, see also paragraph 4, ll 1-4 and paragraph 8, ll 1-5.

(Controller 20-3-4 in the headend 20-3) determining whether to convert the bit rate of the sequence of media signals in view of bandwidth information and the bit rate conversion information (paragraph 13, ll 7-12).

(Processor 20-3-6) converting the bit rate of the sequence of media signals in response to the determination (paragraph 13, ll 12-16).

Per claims 22 and 61, since the admitted prior art teaches that the media signals are sequences of media signals (paragraph 4, ll 1-4) and that the sequences of media signals in the selected digitized program(s) are used in the generation of the information on the amount of actual bit rate conversion that can be achieved by applying bit rate conversion techniques (paragraph 4, ll 1-4, paragraph 8, ll 1-5, paragraph 13, ll 1-9), therefore, it is inherent that the media signals must comprise at least two sequences of media signals where each sequence of media signals must also be associated with a bit rate conversion information.

Per claims 23, 30, and 62, the admitted prior art further teaches that each sequence of media signals comprises of compressed media signals (compressed media signals read on compressed video and audio in MPEG format, paragraph 3 and paragraph 4, ll 1-4) and is representative of at least a portion of a program (a digitized program, paragraph 8, ll 1-5).

Per claims 24 and 63, the admitted prior art discloses a step of selecting at least one of the at least two sequences (the selected digitized programs which contain sequences of media signals) to be provided to the channel (the downstream channel) and wherein converting the

media signals in view of the selection (paragraph 11 and paragraph 13, see also paragraph 4, ll 1-4 and paragraph 8, ll 1-5).

Per claim 25, it is inherent that the step of receiving must be preceded by a step of multiplexing the at least two sequences of media signals since the headend 20-3 receives a signal primary combined signal (multiplexed sequences of media signals) which contains the selected digitized programs having sequences of media signals (paragraphs 10, 11, and 13).

Per claim 60, as shown in Fig. 1, the admitted prior teaches an apparatus comprising:

A controller (controller 20-3-4), coupled to the bit converter (processor 20-3-6), for receiving bit rate conversion information (the results of the analysis) and bandwidth information (the available bandwidth of the downstream channel) and for determining whether to convert the bit rate of the sequence of media signals (a plurality of media signals in a selected digitized program contained in a primary combined signal) in response to the bandwidth information and the bit rate conversion information. Referring to paragraph 13 of the specification, see also paragraph 4, ll 1-4, paragraph 8, ll 1-5, paragraphs 10 and 11.

A bit rate converter (processor 20-3-6), coupled to the controller (controller 20-3-4), for receiving the sequence of media signals, and for converting the bit rate of the sequence of media signals, in response to the determination. See paragraph 13.

Per claim 64, the admitted prior art teaches that as a result of the bit rate conversion determination, the bit rate converter (processor 20-3-6) generates the secondary combined signal which includes the at least two sequences (the selected digitized programs) having the bit rate less than the available bandwidth of the downstream channel through which the secondary combined signal is to be transmitted (paragraph 13, ll 9-16, see also paragraph 4, ll 1-4 and

paragraph 11), therefore, it is inherent that a multiplexer must be coupled between the communication channel (the downstream channel) and the bit rate convert (processor 20-3-6) in order for the at least two sequences of data media to be transmitted as the secondary combined signal.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 4-5, 31-32, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over an admitted prior art (Fig. 1).

Per claim 4, the admitted prior art teaches that the bit rate conversion information indicates (b) at least one amount (the amount) of bit rate conversion resulting from the appliance of the at least two bit rate conversion schemes/one bit rate conversion scheme (bit rate conversion techniques). See paragraph 13 of the specification.

However, the admitted prior art does not explicitly teach that (a) the bit rate conversion information also indicates the at least two bit rate conversion schemes applied on the sequence of media signals.

Since the admitted prior art discloses that the controller 20-3-4 has to determine whether to apply bit rate conversion techniques, which technique to apply and to which of the selected digitized programs to apply the bit rate conversion techniques based on the information received

as results of the analysis of the analyzer 20-3-2 (paragraph 13 of the specification), therefore, it would have been obvious to one skilled in the art at the time the invention was made to also include in the bit rate conversion information the two bit rate conversion schemes applied on the sequence of media signals/at least one media stream in order to directly inform the controller which bit rate conversion techniques were used in generating the information on the amount of bit rate conversion sent by the analyzer 20-3-2 and thereby saving the processing time of the controller.

Per claims 5 and 31, since paragraph 4, ll 4-8, teaches that some prior art conversion methods still produces a lower quality loss than the simple conversion of bit rate, therefore, it is inherent that the bit rate conversion information (the results of the analysis, paragraph 13, ll 3-12) must indicates a quality loss resulting from the appliance of the at least two bit rate conversion schemes.

Per claims 32 and 68, the admitted prior art fails to teach that the media signals are associated with priority criteria, and wherein the step of converting the media signals is further based upon a priority associated with the media signals.

However, it is well known in the art that there are different levels of quality associated with media signals, and these quality levels usually relate to different priority levels which need to be maintained by a network operator for customer satisfaction. Therefore, it would have been obvious to one skilled in the art to include that the media signals are associated with priority criteria, and wherein the step of converting the media signals is further based upon a priority associated with the media signals in order to maintain different levels of media signal quality to ensure customer satisfaction.

10. Claims 6-7, 16-17, 27, 36, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over an admitted prior art (Fig. 1) in view of Zhang et al. (USPN 6,181,711).

Per claims 6, 16, 27, and 65, the admitted prior fails to explicitly teach that the bit rate conversion schemes are selected from a group as disclosed in the claims. However, Zhang et al. teach that the bit rate conversion schemes can be selected from a group of removing filler packets (removing of filler packets), removing filler frames (removing of filler frames), removing stuffing bits (removing stuffing bits) (col. 9, ll 29-59).

Therefore, it would have been obvious to one skilled in the art to include that the bit rate conversion schemes are selected from the group of Zhang et al. into the teaching of the admitted prior as suggested by the admitted prior art (paragraph 4, ll 8-9).

Per claims 7, 17, and 36, the admitted prior fails to explicitly teach that the steps of applying and analyzing are repeated to produce bit rate conversion information indicative of results of an appliance of a sequence of bit rate conversion schemes on the sequence of media signals/at least one media stream.

However, the admitted prior discloses that there is a need to perform some bit rate conversion iterations in order to match a bit rate of at least one media stream to the available bandwidth of a channel (paragraph 5, ll 2-6) and that the results of the bit rate conversion analysis performed by the analyzer 20-3-2 are provided to the controller 20-3-4 (Fig. 1 and paragraph 13, ll 1-12). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the teaching of the prior art to include that the steps of applying and analyzing are repeated to produce bit rate conversion information indicative of results of an appliance of a sequence of bit rate conversion schemes on the sequence of media

signals in order to produce bit rate conversion information which would assist the controller in determining as to which of the selected digitized programs to apply which bit rate conversion techniques.

Allowable Subject Matter

11. Claims 2-3, 8, 12-15, 18, 29, 35, 67, and 71-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 26 and 37 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. Claims 38-59 are allowed. The prior art alone or in combination fail to teach or make obvious on the following when considered in combination with other limitations in the claim: the at least one bit rate conversion analyzer for receiving and analyzing the bit rate converted sequence/stream of media signals provided by the at least one bit rate converter and for providing bit rate conversion information as recited in the independent claims 38 and 49.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nittaya Juntima
October 26, 2004

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